CARBON MONOXIDE -- THE ISSUES

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OCT 25 1998

ACCIDENTAL CO POISONINGS FY 94 - 99

Navy On-duty:
15 Injuries
0 Fatalities

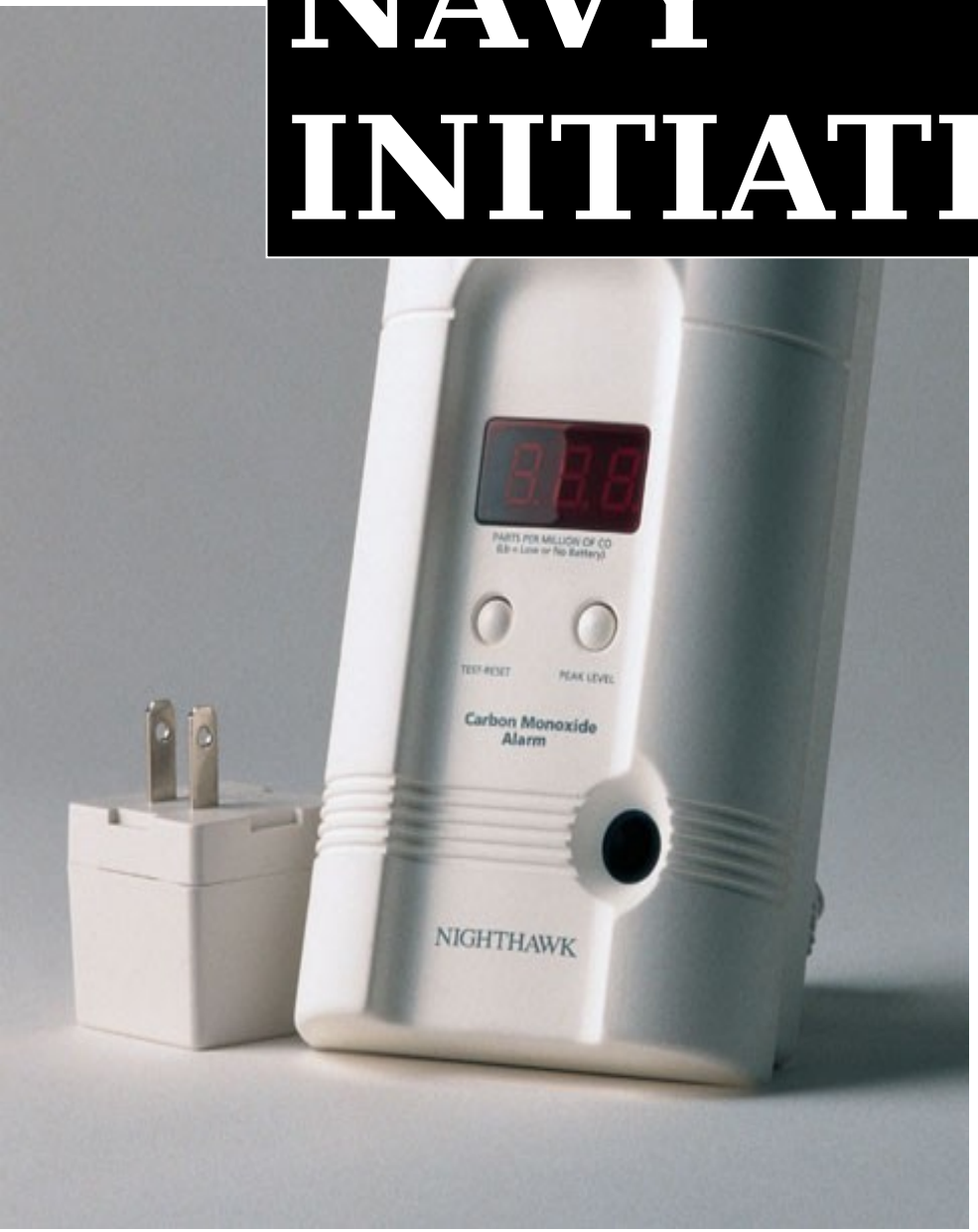
MC On-duty:
1 Injury
2 Fatalities

Navy Off-duty:
1 Injury
4 Fatalities

MC Off-duty:
0 Injuries
2 Fatalities

NAVFAC Log:
4 Families - symptoms

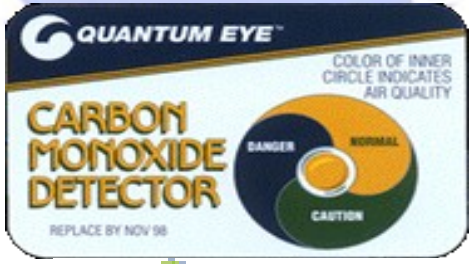
NAVY INITIATIVES



Msg
301830Z OCT 98

- **NAVFACHQ Msg 191412Z NOV 98**
- **NAVFACHQ Msg 191801Z MAR 99**
- **NAVFACHQ Msg 061815Z APR 99**
- **CNO 101307Z Msg MAY 99**

CO TECHNOLOGY TODAY



SensorTechnology:

Colorimetic Sensor - Mimics body's response to Co - chemically treated gel turns color with CO - light senses color changes & signals alarm - household gases can darken gel

Tin Oxide Sensor -Senses changes in electrical properties of metal oxide semi conductors; requires 110V; sensitive to low household humidity in very cold climates below zero degrees

Electrochemical (Fuel Cell) Sensor - Works like a battery creating own current; CO changes electrical properties of fluid in

UL STANDARD 2034

PERFORMANCE - UL 2034 Standard, 1998 - CO Detectors for Residential/Marine. Requires units to alarm within 90 minutes at a max CO level of 100 PPM, within 35 mins at 200 PPM ,and 15 mins at 400 PPM.

- **Alarm must sound before adults experience symptoms.**
- **At 400 PPM headache and nausea is experienced after 1 - 2 hrs.**
- **Death occurs at 800 PPM in approx 2 hrs.**

- **RELIABILITY -**
- **Sensors required to operate correctly in presence of 5 gasses.**

New Technology

COMBINATION CO/SMOKE ALARMS

- **VOICE WARNING TO DISCRIMINATE CO/SMOKE**
- **COMBINATION CO/CO2/SMOKE/REL.HUM./TEMP**
- **AUTOMATIC NICAD BATTERY RECHARGING**
- **RF TRANSMITTER**

CO REPORTING - CURRENT

OPNAV 5100.23D

- **5 + lwd & Special Case**

OPNAV 5100.23E

- **SIR - fatal, PTD, & hospitalization of 3**
- **Log of injuries**

OPNAV 5102.1C

CO REPORTING - PROPOSED

ALL INJURIES REQUIRING FIRST AID/MEDICAL TREATMENT

- **OPNAVINST 5102.1C (Ashore) & 5100.19C (Afloat) - report all off-duty CO exposures using PID report**

CO DATA ELEMENTS

- **Name of victim**
- **Age**
- **Service status (military, civilian, dependent)**
- **Date/Time of incident**
- **Lost work days**
- **Days hospitalized**
- **Medical diagnosis codes**
- **Percent of CO in blood - carboxyhemoglobin (COHb) saturation**
- **Type of equipment causing emissions (furnace, dryer, range etc.)**
- **Was a CO detector present?**
  - **Did detector alarm properly?**
  - **Name of detector manufacturer**
  - **Space where detector alarmed**

WHAT'S REQUIRED:

NAVSAFECEN: "ALSAFE" detailing changes in reporting requirements for OPNAVINST 5102.1C & OPNAVINST 5100. 19C

OP-45: Interim change to OPNAVINST 5100.23D and addition to special reporting categories in Chapter 14 of OPNAVINST 23E

Navy-wide awareness through Safety